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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,381

11/04/2005

Ryou Sakurai

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

CHOI, WILLIAM C

ART UNIT

PAPER NUMBER

2873

MAIL DATE

DELIVERY MODE

01/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/539,381

Applicant(s)

SAKURAI ET AL.

Examiner

William C. Choi

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 0605, 1007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group 2 (claims 19-28) in the reply filed on 10/22/2007 is acknowledged.

Claims 1-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/22/2007.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

Claims 19 (and dependent claims 23-28), 20, 21 and 23 are objected to because of the following informalities: in line 2 of claims 19-21, "isolated each other" should be changed to "isolated **from** each other"; in line 3 of claim 22, "none floating" should be changed to "non floating". Appropriate correction is required. The dependent claims inherit the rejection from their respective parent claim.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 19 (and dependent claims 22-27), 20, 21 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 19, the phrase "for example" or its equivalent "(e.g.)", renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). For purposes of examination, the limitations following the "for example" phrase were not considered on the merits.

Claims 19-21 and 28 recite the limitation wherein their corresponding methods are "characterized in that **the improvement**" in lines 10-11, 10, 10-11 and 1-2, respectively. There is insufficient antecedent basis for this limitation in the claim. Applicant makes no previous mention of an improvement and for "the improvement" to "further comprise" or wherein "the improvement is" in addition to other limitations presents further unclarity to the claims. Therefore, for purposes of examination, the phrase "characterized in that the improvement further comprises:/is" was omitted from the claims. The dependent claims inherit the rejection from their parent claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19, 20, 25 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakamaki et al (U.S. 6,836,304 B2).

In regard to claims 19 and 20, Sakamaki et al discloses a method of manufacturing an image display device which comprises an image display panel having one or more image display cells isolated from each other by partition walls (column 14, lines 26-40, Figure 59, "206") in which two kinds of particles having a pale bright color and a deep dark color (column 14, lines 31-35) or other than white color and a black color (column 14, lines 39-41), and having different charge characteristics (column 14, lines 31-35, re: conductive & insulative), are sealed between a transparent substrate and an opposed substrate (column 14, lines 52-54, Figure 59, "50a, 52a", re: PET), and, in which the particles, to which an electrostatic field produced by a pair of electrodes having different potentials is applied, are made to fly and move so as to display a monotone or color image (column 17, lines 8-25), a filling step for filling a predetermined amount of the particles in spaces constituting the image display cells isolated by the partition walls (column 48, lines 15-49); a removing step for removing unnecessary

particles remaining on the partition walls in the filling step (column 7, lines 4-7); a substrate stacking step for stacking the transparent substrate and the opposed substrate via the partition walls (Figure 59 & 60) and applying a sealing agent at a peripheral portion of the substrate so as to make an atmosphere between the transparent substrate and the opposed substrate uniform (column 48, lines 3-14); and an electrode adhering step for connecting a circuit for displaying the image to the electrode so as to form a module (column 47, lines 59-64).

Regarding claim 25, Sakamaki et al discloses wherein an average particle diameter of the particles is 0.1-50 μm (column 47, line 1, re: 30 μm).

Regarding claim 28, Sakamaki et al discloses an image display device manufactured according to said method (Figures 59 and 60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamaki et al as applied to claim 19 above, and further in view of Ota (U.S. 3,668,106).

In regard to claim 21, Sakamaki et al discloses as set forth above, and two kinds of particles having a white and black color (column 14, lines 31-35), but does not

specifically disclose wherein said particles are made to fly and move so as to display a color image via a color filter provided to the transparent substrate constituting a front panel.

Within the same field of endeavor, Ota teaches that it is well known in the art of electrophoretic display devices to display color images using color filters provided to the transparent substrate (column 10, lines 52-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for said particles of Sakamaki et al to fly and move so as to display a color image via a color filter provided to the transparent substrate constituting a front panel, since Ota teaches that it is well known in the art to do so.

Allowable Subject Matter

Claims 22-24, 26 and 27 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims, **taking into account the assumption made in the examination of the claims.**

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 22: a method of manufacturing an image display device as claimed, specifically wherein an apparent volume in a maximum floating state of the liquid powders is two times or more than that in none floating state.

The prior art fails to teach a combination of all the claimed features as presented in claim 23: a method of manufacturing an image display device as claimed, specifically wherein a time change of the apparent volume of the liquid powders satisfies the following formula: $V_{10}/V_5 > 0.8$.

The prior art fails to teach a combination of all the claimed features as presented in claim 24: a method of manufacturing an image display device as claimed, specifically wherein an average particle diameter $d(0.5)$ of a particle component constituting the liquid powders is 0.1-20 μm .

The prior art fails to teach a combination of all the claimed features as presented in claim 26: a method of manufacturing an image display device as claimed, specifically wherein a difference between surface charge densities of the two kinds of particles measured by utilizing same carrier and in accordance with a blow-off method is 5 $\mu\text{C}/\text{m}^2$ -150 $\mu\text{C}/\text{m}^2$ in an absolute value.


The prior art fails to teach a combination of all the claimed features as presented in claim 27: a method of manufacturing an image display device as claimed, specifically wherein the particles are particles in which the maximum surface potential, in the case that the surface of particles is charged by a generation of Corona discharge caused by applying a voltage of 8 KV to a Corona discharge device deployed at a distance of 1 mm from the surface, is 300 V or greater at 0.3 second after the discharge.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


William Choi
Patent Examiner
Art Unit 2873
January 1, 2008